

### Abstract of the Disclosure

The present invention relates to a method and system for supporting in a router a plurality of data flows using a ternary content addressable memory (TCAM) in which the number of accesses to write to the TCAM is optimized to improve efficiency of updating and subsequent look up. To accommodate the plurality of data flows, the TCAM is partitioned into at least two partitions in which a first portion includes indices having a higher priority and a second portion includes indices having a lower priority. For example, multiple protocol label switching (MPLS) flows and IP-Virtual Private Network (VPN) can be added to the first partition and policy based routing flows can be added to the second partition. During subsequent TCAM look-up of a prefix of an incoming packet the MPLS or IP-VPN flow will subsume any matching policy based routing flow, such as flows classified by an access control list or traffic manager flows.